## PATENT ABSTRACTS OF JAPAN

(11)Publication number:

2000-286478

(43) Date of publication of application: 13.10.2000

(51)Int.CI.

H01L 43/08 G11B 5/39

H01F 10/12

(21) Application number: 11-092034

(71)Applicant: TOSHIBA CORP

(22) Date of filing:

31.03.1999

(72)Inventor: MIZUSHIMA KOICHI

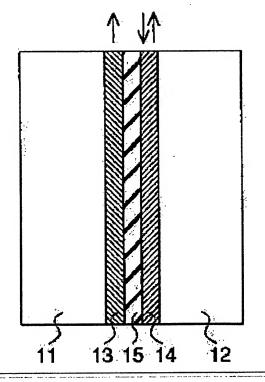
SATO TOSHIE

## (54) MAGNETIC TUNNEL JUNCTION ELEMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To reduce the voltage dependence of a magnetic tunnel junction element and increase the MR ratio of the element.

SOLUTION: A magnetic tunnel junction element is provided with a first magnetic electrode, an insulating layer 15 provided on the electrode, and a second magnetic electrode provided on the insulating layer 15. The second magnetic electrode is constituted in a laminated structure, composed of a first thin film 13 containing iron, cobalt, or nickel and having a thickness of 5 nm or smaller and a second thin film containing a noble metal, copper, or chromium.



## **LEGAL STATUS**

[Date of request for examination]

06.03.2001

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

Number of appeal against examiner's decision of